Name of work :-Providing pipe line and construction of chambers to disposal of rain water at Kurlappa layout low laying areas in Kempegowda ward no:1

AGREEMENT NO: BBMP/EE/YNK.D/EMPT/ AG/202/2020-21 DT:22.02.2021

Work order No:-BBMP/EE/YNK.D/EPMT-8/W.O / 257/2020-21 ,DATED 22/02/2021

COST OF ESTIMATE : Rs 50,00,000=00

COST OFAGREEMENT : Rs 52,39,909=00

Name of contractor : H E Shashikala, (M/s Sri Shakthi Ganapathi Construction Company),#194,6th A main, 15th cross,A sector,1st phase, Yelahanka new town, Bengaluru-560064

1 ST & Final Bill

E MB

Pre Measuremnet /Date of Measurement: 24.09.2021

Si no	Description	Unit	L	B	D	Qty
1	Conducting the level and strip of SURVEY of alignment of Main sewers of required diameter including all data required for generating GIS map of sewer network, preparation and submission of plan and LS with ground level at 30 M intervals and junction points along the centre line of the alignment etc. showing the right of way, any permanent features, culverts, branch sewer pipe etc. complete as per specifications and as directed by the Engineer in charge with all lead and lifts etc. complete for Sewer pipes upto 300 mm dia.:::.(BWSSB SR 2017-18,Sl no 123.1,P.no 182)					
		Rmt				863
2	Earth work in EXCAVATION FOR PIPELINE TRENCHES 600 mm to 1500 mm trench width by mechanical / manual means as per drawing and technical specifications, including setting out, shoring, strutting, barricading, danger lighting bracing, using sight rails & boning rods at every 100 M wherever necessary as directed, removal of stumps and other deleterious matters, dressing of sides & levelling the bottom of trench to the extent required, utilizing the available excavated earth locally for the work etc. complete IN ORDINARY SOILS / ALL SOILS / HARD SOILS etc. for: Depth up to 2.0 M in all types of soil (BWSSB SR 2017-18,Sl no11.2,P.no55)					
Pre Measuremnet /Date of Measurement:						
	Up to 2.0m depth for 250mm DWC pipe line					
	Pipe line excavation of Mh-5,6,7&8	Cum	30.00	1	1.6	48.00
		Cum	30.00	1	1.6	48.00
		Cum	18.15	1	1.6	29.04
	Pipe line Excavation for MH 9,10,11&12	Cum	30	1	1.6	48.00
		Cum	30	1	1.6	48.00
		Cum	21.5	1	1.6	34.40
	Pipe line excavation of Mh-13,14,15&16	Cum	30	1	1.7	51.00
		Cum	30	1	1.7	51.00
		Cum	24	1	1.7	40.80
	Excavation for MH Mh-5 to 16	Cum	11		(3.142*1.25*1.25)*2	108.01
	RCC pipe line excavation	Cum	30	2	2	120.00
			22.5	2	2	90.00
3	Above 2.0M up to 4.0m					716.25
	RCC pipe line excation	Cum	30	1.55	0.4	18.60
			22.5	1.55	0.4	13.95
4	Extra charges for excavation in all classifications in watery situations or foul conditions may be paid duly obtaining approval from the Chief Engineer as under towards DEWATERING with recuperation up to two meter depth and thereof for:(BWSSB SR 2017-18,Sl no15.0,P.no56)excavation & laying of pipe line in Live sanitary line					32.55
	Pipe line Excavation for MH 9,10,11&12	Cum	30	0.9	1.3	35.10
			30	0.9	1.3	35.10
			21.5	0.9	1.3	25.16

	Pipe line excavation of Mh-13,14,15&16	Cum	30	0.9	1.7	45.90
			30	0.9	1.7	45.90
			24	0.9	1.7	36.72
	Excavation for MH Mh-5 to 16	Cum	30	0.9	1.7	45.90
			30	0.9	1.7	45.90
			19.5	0.9	1.7	29.84
	RCC pipe line excation	Cum	30	1.55	1.2	55.80
			22.5	1.55	1.2	41.85
	Total Qty	Cum				443.16

C&FC 24/02

24-02-21

Pre Measuremnet /Date of Measurement: 02-03-2021						
2	Earth work in EXCAVATION FOR PIPELINE TRENCHES 600 mm to 1500 mm trench width by mechanical / manual means as per drawing and technical specifications, including setting out, shoring, strutting, barricading, danger lighting bracing, using sight rails & boning rods at every 100 M wherever necessary as directed, removal of stumps and other deleterious matters, dressing of sides & levelling the bottom of trench to the extent required, utilizing the available excavated earth locally for the work etc. complete IN ORDINARY SOILS / ALL SOILS / HARD SOILS etc. for: Depth up to 2.0 M in all types of soil (BWSSB SR 2017-18,Sl no11.2,P.no55)					
	Pipe line excavation of Mh-17,18,19 &20	Cum	30	1	1.7	51.00
			30	1	1.7	51.00
			19.5	1	1.7	33.15
	Pipe line excavation of Mh-14-18-21-22 &23	Cum	30	1	1.6	48.00
			30	1	1.6	48.00
			30	1	1.6	48.00
			21	1	1.6	33.60
	excavation of Mh-28-25-22,-30	Cum	30	1	1.6	48.00
			30	1	1.6	48.00
			23.6	1	1.6	37.76
	excavation of Mh-27-28-29	Cum	30	1	1.5	45.00
			30	1	1.5	45.00
	RCC pipe line excation	Cum	30	2	2	120.00
			30	2	2	120.00
			7.5	2	2	30.00
	Excavation for MH Mh-5 to 16	Cum	12	(3.142*1.25*1.25)*1.95		117.83
		Cum				924.34
3	Above 2.0M up to 4.0m					
	RCC pipe line excation	Cum	30	1.55	0.45	20.93
			30	1.55	0.45	20.93
			7.5	1.55	0.45	5.23
	Excavation for MH	Cum	2	(3.142*1.25*1.25)*1.1		5.40
						52.48
4	Extra charges for excavation in all classifications in watery situations or foul conditions may be paid duly obtaining approval from the Chief Engineer as under towards DEWATERING with recuperation up to two meter depth and thereof for:(BWSSB SR 2017-18,Sl no15.0,P.no56)excavation & laying of pipe line in Live sanitary line					
	Pipe line excavation of Mh-14-18-21-22-&23	Cum	30	1	1.6	48.00
			30	1	1.6	48.00
			30	1	1.6	48.00
			21	1	1.6	33.60
	Pipe line excavation of Mh-30-31&32	Cum	30	1	1.6	48.00
			13.5	1	1.6	21.60

C&FC 01/03/2021

01-03-21

Arv. Dept 01/03/2021

	excavation of Mh-28-25-22,-30	Cum	30	1	1.5	45.00
			30	1	1.5	45.00
			23.6	1	1.5	35.40
	excavation of Mh-27-28-29	Cum	30	1	1.5	45.00
			30	1	1.5	45.00
	RCC pipe line excation	Cum	30	1.55	2	93.00
			30	1.55	2	93.00
			7.5	1.55	2	23.25
	Jacking pit at 4 locations	Cum	2X4	1.5	(3.3+0)/2	19.80
						691.65

C&FC
01/03/2021

1-03-21

Pre Measuremnet /Date of Measurement: 15.03.2021						
2	Earth work in EXCAVATION FOR PIPELINE TRENCHES 600 mm to 1500 mm trench width by mechanical / manual means as per drawing and technical specifications, including setting out, shoring, strutting, barricading, danger lighting bracing, using sight rails & boning rods at every 100 M wherever necessary as directed, removal of stumps and other deleterious matters, dressing of sides & levelling the bottom of trench to the extent required, utilizing the available excavated earth locally for the work etc. complete IN ORDINARY SOILS / ALL SOILS / HARD SOILS etc. for: Depth up to 2.0 M in all types of soil (BWSSB SR 2017-18,Sl no11.2,P.no55)					
	Pipe line excavation of Mh-24-25-26	Cum	30	1	1.6	48.00
			30	1	1.6	48.00
			1	1	1.6	1.60
	Pipe line excavation of Mh-30-31&31	Cum	30	1	1.6	48.00
			13	1	1.6	20.80
	RCC pipe line excation	Cum	30	1	2	60.00
			27.5	1	2	55.00
		Cum				281.40
	Total qty of item no.2	Cum				1921.98
	Restricted to 1915.84 Cum					
3	Above 2.0M up to 4.0m					281.40
	RCC pipe line excation	Cum	30	1.55	0.45	20.93
			27.5	1.55	0.45	19.18
	Total qty of item no.3	Cum				373.999
	Qty restricted to 355.00 Cum					
4	Extra charges for excavation in all classifications in watery situations or foul conditions may be paid duly obtaining approval from the Chief Engineer as under towards DEWATERING with recuperation up to two					
	Pipe line excavation of Mh-24-25-26	Cum	30	0.9	1.6	43.20
			30	0.9	1.6	43.20
			1	0.9	1.6	1.44
	Excavation for Man hole	Cum	23		(3.142*1.25*1.25)*.6	67.75
	RCC pipe line excation	Cum	30	1.55	1.45	67.43
			27.5	1.55	1.45	61.81
						284.82
	Total qty of item no.4					1419.63
	Qty restricted to 1408.57 Cum					
5	Carting of excavated earth of all types up to a distance mentioned below and re-carting back the earth to the same site by vehicle including loading, unloading charges for to & fro, with all lifts, labour, HOM of machinery etc. complete, after obtaining the approval of the Chief Engineer, for: Distance 2 to 3 KM					
	Pipe line excavation of Mh-5,6,7&8	Cum	30.00	1	1.6	48.00
			30.00	1	1.6	48.00
			18.15	1	1.6	29.04

C&FC
15/3

	Pipe line Excavation for MH 9,10,11&12	Cum	30	1	1.6	48.00
			30	1	1.6	48.00
			21.5	1	1.6	34.40
	Pipe line excavation of Mh-13,14 ,15&16	Cum	30	1	1.600	48.00
			30	1	1.600	48.00
			24	1	1.600	38.40
	Pipe line excavation of Mh-17,18,19 &20	Cum	30	1	1.7	51.00
			30	1	1.7	51.00
			19.5	1	1.7	33.15
	Pipe line excavation of Mh-14-18-21-22 &23	Cum	30	1	1.6	48.00
			30	1	1.6	48.00
			30	1	1.6	48.00
			21	1	1.6	33.60
	excavation of Mh-28-25-22-30 C/F C	Cum	30	1	1.6	48.00
			30	1	1.6	48.00
			23.6	1	1.6	37.76
	excavation of Mh-27-28-29 15/03/2021	Cum	30	1	1.6	48.00
			30	1	1.6	48.00
	excavation of Mh-24-25-26	Cum	30	1	1.6	48.00
			30	1	1.6	48.00
			1	1	1.6	1.60
	excavation of Mh-30-31&32	Cum	30	1	1.6	48.00
			13.5	1	1.6	21.60
	excavation of MH	Cum	21	(3.142*1.25*1.25)*2		206.19
	excavation of MH at Sugappa layout	Cum	2	1.25*1.25)*2		32.40
	Jacking pit at 4 locations	Cum	2X4	1.5	(3.3+0)	19.80
						1357.95

15-03-21

Date of Measurement: 05-04-2021						
6	KSRB 2.3: Filling available excavated earth (Excluding rock)in sides of foundation upto plinth , in layers not exceeding 20 cms. in depth, compacting each deposited layer by ramming after watering with lead of 50.0M and lift upto 1.5M including cost of all labour including complete as per specification.specification No KBS 2.9(KPWD SR 2018-19,P No 7, I No 2.10)					
	Total excavation = 2279.17- (Pipe qty+ manhole qty)					2279.170
	Deduct for					
	250mm Pipe line qty = C/F C		682.8*.135*.135*3.142			-39.099
	Manhole qty = 21X3.142*1.2*1.2*2					-190.028
	RCC NP-3 pipe		177.5*.275*.275*3.142			-42.176
	Restricated to 2004.93 Cum 05/04/2021	Cum				2007.87

7	Providing and constructing "wire cut brick manhole chambers" using sulphate resistant cement, conical in shape at top with C.C. 1:3:6 foundation using 40 mm and down size graded metal of approved quality and with an offset of 0.15 m alround the chamber and brick masonry in C.M. 1:4 plaster with wire cut bricks of approved quality and CM plaster 1:3 proportion 12 mm thick inside and outside except for the conical surface outside where the thickness of plaster shall be 20 mm thick, with 1:6 slope in the concrete towards the central drain, finished smooth and fixing of pipes in CC 1:2:4 graded metal of 20 mm and down size including conveying to work spot supplying & fixing SFRC manhole frame and cover confirming to IS:12592 with latest amendments in CC 1:2:4, supplying and fixing of minimum 3 mm thick encapsulated plastic footsteps (as per IS 10910) on 12 mm dia, Grade Fe-415 steel bar (as per IS 1786) staggered at 30 cms apart as detailed in Technical Specifications and as directed, watering, curing, barricading, danger lighting, pouring tar over MH frame and cover, cost of tar, shoring, strutting, dewatering, engraving manhole No. with flow direction on the inner conical surface etc., as per the drawing with wire cut bricks as per technical specifications for the following diameters & depths by using Ordinary Port Land Cement. (Inclusive cost of SFRC manhole frame & cover)						
	1.20M Diameter manholes						
	a) For2.00 m depth	No	20				20
8	a) above 2.0m below3.m (44961-30795)	Rmt	3.5				3.5
9	a) For 3.00m depth	No	3				3
10	Installation of steel product pipe by HDD method including preparing and setting up the plant and equipment, preparing new pipe work materials, installing new pipe work and commissioning system or making the system ready for commissioning by HDD operation including all related civil and mechanical works like excavation, shoring / strutting etc. drilling, stringing, ramming and pulling back the new work on the design bore path alignment,proper disposal of drilling fluid and restoration of site after completion etc. for horizontal directional drilling technique suiting Indian conditions in all types of soil including the cost of sleeve /casing pipe etc. For pipes of 400 mm dia and 6 mm thick.						
	At Gundappa house 20 meter	Rmt	20				20
	At Suresh gowda house20M	Rmt	19				19
	Near Kurlappa garden 20.0M	Rmt	21				21
							60
11	Supplying DOUBLE WALL CORRUGATED (External annul corrugated & smooth internal wall) (DWC) of class SN 8, piping system in accordance with IS 16098 (Part-2) and conveying to worksite, rolling and lowering into trenches, laying true to line and level and perfect linking at joints, testing and commissioning, including loading and unloading at both destinations and cuts of pipes wherever necessary including jointing with all labour, lead & lifts, including encasing the pipes alround to a depth of not less than 15 cms. with soft gravel or selected earth available from the excavation etc. complete and giving necessary hydraulic test to the required pressure as per ISS						
	Between MH-5,6,7&8	Rmt	30.00				
		Rmt	30.00				
		Rmt	18.15				
	Between MH 9,10,11&12	Rmt	30				
		Rmt	30				
		Rmt	21.5				
	BetweenMH-13,14 ,15&16	Rmt	30				
		Rmt	30				
		Rmt	24				
	Between Mh-17,18,19 &20	Rmt	30				
		Rmt	30				
		Rmt	19.5				
	BetweenMH-14-18-21-22 &23	Rmt	30				
		Rmt	30				
		Rmt	30				
		Rmt	21				
	BetweenMH-28-25-22-30	Rmt	30				
		Rmt	30				
		Rmt	23.6				

	BetweenMH-27-28-29		Rmt	30			
			Rmt	30			
	BetweenMH-24-25-26		Rmt	30			
			Rmt	30			
			Rmt	1			
	BetweenMH-30-31&32		Rmt	30			
			Rmt	13.5			
			Rmt	682.25			682.25
12	Supplying S&S RCC SPUN / VIBRATED CAST PIPES (REINFORCED) pipes NP-3 Class conforming to IS:458-1988 with latest amendments using ordinary portland cement, for sanitary works and conveying to work site, rolling and lowering into trenches, laying true to line and level including loading and unloading at both destinations and jointing of pipes and specials including cost of specials, perfect linking of joints with jack to correct position including cost of jointing materials, i.e, rubber rings conforming to IS: 5382 for S&S RCC pipes, with all leads and lifts as directed and giving necessary hydraulic test as per ISS to the required pressure and commissioning etc. complete. (Contractor will make his own arrangements for procuring water for testing). Before the execution of the work, the contractor shall carry out the survey and will be paid extra for the same as per seperate item. RCC NP-3 class pipe of 450mm dia						
			Rmt	1	30		30
				1	30		30
				1	30		30
				1	30		30
				1	30		30
				1	27.5		27.5
							177.5
13	Supplying and fixing DI Resilient seated soft sealing SLUICE VALVE of various dia. with body, bonnet of ductile iron (DI) conforming to IS-1865 and of grade GGG50, shaft of stainless steel, wedge fully rubber lined with EDPM seals of NBR and the valves should be vacuum tight and 100% lead proof with face dimensions as per BS 5163-89 / IS 14846-2000 / DN 3202 F4/F5. The stem sealing should be with toroldal sealing rings (minimum 2 "O" rings). Body and bonut should be coated with Electrostatically applied Epoxy Power Coating with minimum coating thickness of 250 micron both inside and out side. The rate is inclusive of cost of valve, T.P set, bolts & nuts and rubber insertions etc. but excluding earth work.						
			No	1			1

Assistant Engineer
Ward No.1

Assistant Executive Engineer
Yelahanka Sub division

Sri Shakthi Ganapathi Construction Company

Contractor H.E. Shashikala

Proprietor